

**AMENDMENTS TO THE CLAIMS**

1. (Withdrawn) A microfluidic device, comprising  
a substrate;  
a plurality of resin layers formed on the substrate; and  
a three-dimensional fluid circuit formed in the plurality of the resin layers.
2. (Currently Amended) A method of manufacturing a microfluidic device for use in  $\mu$ -Tas, comprising the steps of:
  - (a) providing a re-usable substrate;
  - (b) [[a)] laminating a first resin film on [[a]] the substrate, and forming a groove in the first resin film by a laser ablation method, said groove having a width of 20 to 100  $\mu$ m and a predetermined circuit pattern which functions as a  $\mu$ -Tas fluid flow path by removing a part of the resin film layer by laser processing;
  - (c) [[b)] laminating a subsequent second resin film on the overall surface of said first resin film layer having been processed in step (b), and forming a groove in the subsequent resin film layer by laser processing and/or forming, by laser processing of the subsequent resin film layer, a throughhole by laser ablation, which accurately penetrates the patterned [[to the]] groove formed in step (b) said resin film layer having been processed;
  - (d) [[c)] repeating the step (b) laminating a third resin film on the second resin film processed in step (c), and forming a second groove in a predetermined circuit pattern so as to be accurately connected to the throughhole formed in step (c), by a laser ablation method; and

(e) ~~[[ (d) ]]~~ forming a three-dimensional fluid circuit by finally laminating the third resin film and forming inlets and an outlet by laminating a resin film a laser ablation method;

wherein the resin film layers are to be washed away with a solvent after analysis, and the substrate is to be reused to regenerate the microfluidic device in accordance with steps (b) to (e) for a subsequent  $\mu$ -Tas; and

wherein the fluid circuit formed in the resin films achieves three-dimensional fluid mixing.

3. (Cancelled)

4. (Cancelled)

5. (Currently Amended) The method of manufacturing the microfluidic device according to claim 2, wherein the thickness of ~~[[the]]~~ each resin film layer is 10 to 1000  $\mu\text{m}$ .

6. (Currently Amended) The method of manufacturing the microfluidic device according to claim 2, wherein the depth of ~~[[the]]~~ each groove is 20 to 30  $\mu\text{m}$ .

7. (Cancelled)

8. (New) The method of manufacturing the microfluidic device according to claim 2, further comprising a step of: repeating steps (c) and (d), thereby connecting the grooves formed in the different steps via the throughhole.